CONSERVATION AGREEMENT FOR BONNEVILLE CUTTHROAT TROUT IN THE THOMAS FORK DRAINAGE OF THE BEAR RIVER CARIBOU NATIONAL FOREST

Amended March 2000

This conservation agreement (CA) is specific to the Bonneville cutthroat trout (*Oncorhynchus clarki utah*) populations on National Forest System lands within the Thomas Fork drainage of the Bear River. A CA was initiated in October 1994 to reduce threats to the subject subspecies, to maintain the viability of the subspecies over the long term, and maintain its ecosystem. The primary purpose of this document, for the next 5 years, is to continue to provide specific direction that will conserve this subspecies and reduce or remove threats that could cause it to be listed as Threatened or Endangered.

Current data suggests there are approximately 160 known populations of Bonneville cutthroat trout within Idaho, Nevada, Utah, and Wyoming (Duff 1988, Behnke 1992, Lentsch et al. draft 1999). Populations of Bonneville cutthroat trout are known to inhabit several tributaries to the Bear River and Bear Lake in southeast Idaho. Land ownership where these populations occur includes state, private, and federal land. National Forest Land affected by this agreement is administered by the Caribou National Forest, Intermountain Region. Bonneville cutthroat trout are on the USDA Forest Service (USFS) Intermountain Regional Forester's Sensitive Species List. U.S. Fish and Wildlife Service (USFWS) is currently reviewing the status of the subspecies to determine if it should be proposed for listing as a Threatened species under the Endangered Species Act of 1973, as amended.

I. SPECIES INVOLVED

Bonneville Cutthroat trout (*Oncorhynchus clarki utah*)

II. PRIMARY PARTIES INVOLVED

USFS, Caribou National Forest.
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Idaho Soil Conservation Commission

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Represented by: Dick Scully
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Represented by: Lynn Van Every
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III. AUTHORITY

The authorities for these agencies and other groups to enter into this voluntary CA derives from the following: the Endangered Species Act of 1973, as amended; the Fish and Wildlife Act of 1956, as amended; the Cooperative Funds and Deposits Act of 1975; and the Memorandum of Understanding between USFS and Idaho Fish and Game.

This agreement is based on the National Memorandum of Understanding (94-SMU-058). between the participating agencies for conservation of species that are tending toward federal listing as Threatened or Endangered under the Endangered Species Act. Implementation of this agreement will be through existing Federal and State authorities such the Clean Water Act, Idaho Forest Practices Act, National Forest Management Act, Federal Land Policy Management Act, and National Environmental Policy Act.

IV. GOALS OF THIS CONSERVATION AGREEMENT

1. Protect and ensure viability of known populations of Bonneville cutthroat trout and habitat in Preuss, Dry and Giraffe Creeks on USFS administered land in the Montpelier/Elk Valley Cattle and Horse allotment of the Montpelier Ranger District, Caribou National Forest.

2. Provide for discovery and protection of other populations of Bonneville cutthroat trout.

3. Provide specific direction for how each of the involved parties will contribute to the above.

4. Gain cooperation and commitment of all CA participants for protection and conservation of Bonneville cutthroat trout within the CA area.

V. STATUS AND DISTRIBUTION OF THE SPECIES

Bonneville cutthroat trout are the only trout endemic to the Bonneville Basin (Hickman 1978). Once abundant throughout all suitable habitat in the basin, the population has drastically declined over time. Approximately 160 populations exist today (Lentsch et al. Draft 1999). These populations are apparently split into three slightly differentiated groups: Bonneville basin, Snake Valley region, and Bear River drainage (Behnke 1979). The Bonneville cutthroat trout referenced in for this CA are part of the Bear River group.

Pure Bonneville cutthroat trout were thought to be extinct until the 1970's (Behnke 1979). Cutthroat trout collected from Preuss, Dry, and Giraffe Creeks were analyzed on the basis of meristic characteristics by Dr. Richard Wallace and rated "B" on Binn's purity scale (Wallace 1978; Wallace 1980). A "B" rating indicates stocks are essentially pure, but traces of hybridization from other trout species are found (Binns 1981). Although Henry's Lake cutthroat trout were widely stocked for years in the area, very little hybridization apparently took place in these populations.

Trout populations have been monitored in Preuss, Dry and Giraffe Creeks since 1979. Between 1985 and 1993, data showed a downward trend in Bonneville cutthroat trout densities. In 1986, a 150 year flood event affected the quality of habitat in these 3 streams.

Densities have increased since 1994, following the end of a drought period. Surveys continue to determine the distribution, population densities, and genetic purity of the species within its historic range. Please refer to Appendix A for population data.

VI. THREATS TO THE SPECIES

Note: The threats described below are based upon 5 criteria for Federal listing of a species (ESA 4(a)(1).

A. Present or threatened destruction, modification, or curtailment of the species habitat or range.

1. Grazing

Overgrazing has been shown to negatively influence stream habitats and stream communities (Platts and Nelson 1985). Poor grazing practices cause stream bank degradation by eliminating or reducing riparian vegetation, physically damaging stream banks, and promoting active erosion. This degradation results in loss of bank cover and stability, and introduces fine sediments into streams. Final results are often a loss of pool habitat, reduced cover, increased water temperature, and substrates that are poorly suited for spawning and food production (Platts 1991, Duff 1988).

Grazing has occurred on the Montpelier/Elk Valley Allotment for more than 100 years. Past management practices negatively affected fish habitat and populations within the Montpelier Elk Valley allotment. Historical grazing practices on most of the National Forest Lands included season-long grazing by much greater numbers of livestock than today. Livestock tended to congregate in riparian areas, attracted by shade, succulent vegetation, and water. They sometimes used 80-100% of existing vegetation (Carling 1976).

Burton (1987) noted "It is probable that conditions are in a slight upward trend on the stream in the vicinity of the Preuss Creek exclosure, but not as rapidly as within the enclosure, especially for micro-habitat variables."

Currently the allotment is managed under a rest rotation system. Five riparian exclosures have been created within the Thomas Fork Drainage on critical stream reaches. Other structural and nonstructural range improvements have been initiated to improve livestock distribution. Riparian and upland areas are monitored according to the standards in the Integrated Riparian Evaluation Guide, Intermountain Region, March 1992 and the USFS Handbook 2209.21. Fish habitat monitoring in the Thomas Fork has consisted of basin inventory and level III transects.

Based upon observations during field visits to the CA area, the CA partners concur there has been improvements to the quality of riparian and upland habitat.

2. Stream habitat conditions

The tributaries to the Thomas Fork of the Bear River (including the lower reaches downstream of the National Forest boundary) are warm in the summer and turbid, with little shelter for trout. Late summer flows in the Thomas Fork drainage are often low enough to leave Bonneville cutthroat trout susceptible to other impacts. Impacts resulting in increases in stream channel width-depth ratios may cause shallow pools susceptible to early dry up and winter anchor ice conditions. High width-depth ratios were likely influenced greatly by historical livestock over-use.

Temperatures in Preuss, Dry, and Giraffe Creeks commonly approach and occasionally exceed 20° C in July and August. This is commonly considered to be higher than optimal cutthroat trout juvenile and adult rearing temperatures. High water temperature can be attributed to several factors. High width-depth ratios expose the stream to sun, causing water temperatures to rise rapidly in summer and freeze more thoroughly in winter. Livestock and wildlife use and subsequent removal or stunting of streamside woody vegetation has reduced shading also allowing stream temperatures to rise.

Silt deposition continues throughout the year. This can smother eggs in redds, fill in rearing habitat, and adversely affect aquatic invertebrate populations that trout rely on for food. Fine sediment in Thomas Fork streams is likely a limiting factor of Bonneville cutthroat trout production. Ungulate hoof action and removal of streamside herbaceous vegetation has resulted in some accelerated stream bank erosion and sloughing.

Recreation activities over the years may be affecting fish habitat and populations. Several dispersed campsites exist in riparian areas across the allotment, contributing sediment to streams.

3. Fragmentation

Range-wide, populations of Bonneville cutthroat trout have been fragmented and are isolated in portions of their former range. Water diversions below the Forest boundary have caused stream habitats to become fragmented and disconnected tributary streams from main stem rivers and lakes. These diversions may prevent migration and create thermal barriers. Loss of connectivity with larger order streams and rivers drastically reduce opportunities to effectively repopulate former habitats, especially when large scale population drops occur (such as during the multi-year draught). In many cases, unscreened diversions deflect migrating fish into diversion canals and these fish are lost during irrigation.

B. Over-utilization for commercial, recreational, scientific, or educational purposes.

Angling has been shown to impact populations of cutthroat trout (Behnke 1992). Cutthroat trout may be more susceptible to angling pressure than other salmonids and this could cause a decline in populations that are heavily fished. Angling pressure may have contributed to decline in Bonneville cutthroat trout populations in Preuss, Dry, and Giraffe Creeks prior to special regulations enacted by Idaho Fish & Game in recent years (i.e., slot limit, fishing closure). A closure to angling has been in effect since 1991. Currently there is proposal to open these streams to catch and release, artificial fly and lure use fishing.

Recent evidence indicates electrofishing has adverse effects on salmonids by causing tissue hemorrhage and spinal damage. Electroshockers, used by Idaho Fish & Game and others to monitor populations of Bonneville cutthroat trout over past years. This may have adversely affected local populations, especially when fish were already stressed by drought conditions.

C. Disease or predation.

A variety of diseases and parasites are found in waters containing Bonneville cutthroat trout. Infectious pancreatic necrosis (IPN) and Infectious hematopoiatic necrosis (IHN) have historically been found in waters throughout the state of Utah, but have not been recently observed (Ron Goede, Utah DWR). Recently, whirling disease has been accidentally introduced into the Little Bear River system in Utah. While this disease is currently localized, there is a possibility that it may spread throughout the Bear River system. Parasite species in the genus Plistophera and epitheliocystid flukes have been found in the Bear River system and may impact Bonneville cutthroat trout. Bacterial diseases furunculosis and bacterial kidney disease are also found within the system.

Predators affecting Bonneville cutthroat trout which occur in the Thomas Fork Drainage include humans, great blue herons, kingfishers, large sculpin, mink, and other Bonneville cutthroat trout.

D. Absence of regulating mechanisms adequate to prevent decline of the species or degradation of its habitat.

The Bonneville cutthroat trout is currently under status review by USFWS to determine if a proposal to list the species as Threatened under the ESA is warranted. Idaho Department of Fish and Game lists the fish as a Sensitive species (Sl) within the state. The USFS maintains a policy to protect and preserve Sensitive plant and animal species and developed an allotment management plan in 1993 for the Montpelier/Elk Valley Allotment which includes provisions to improve habitat for the Bonneville cutthroat trout in Preuss, Dry and Giraffe Creeks.

The Caribou National Forest Plan has been amended by Inland Native Fish Strategy (INFISH). INFISH provides standards, guidelines, and direction developed to protect inland native fish and their habitat.

There is currently a moratorium on road building activities within USFS inventoried roadless areas, including the CA drainages.

As described earlier in section B, IDFG harvest regulations apply. In addition, other State regulations apply to management regulations in these drainages.

E. Other natural or human-made factors affecting the continued existence of the species.

Flood-drought cycles can have a detrimental effect on fish habitat and populations. Floods and unusually high spring flows occurred in 1984-86,

immediately followed by six years of drought.

Prescribed burns will continue to be proposed and evaluated through the NEPA process. They will be implemented according to an approved burn plan in upland areas in order to improve or maintain suitable range condition for wildlife and livestock. These burns could cause soil erosion and sedimentation of streams. Other fires, both natural and human-caused may have a greater chance of impacting streams through sedimentation.

Inherently unstable land types within the allotment resulted in natural erosion and slumping on hillsides. This contributes to sediment loads in the streams.

Generally, beaver have had a positive effect on streams in the Thomas Fork drainage. However, it has been observed that when their structures are abandoned or are unstable, there can be negative effects upon streams. These negative effects may include channel degradation or aggradation. It is also important to recognize that beaver and Bonneville cutthroat trout co-evolved. It is very likely that the subspecies are dependent on the habitat created by beaver. It is also likely isolated populations of BCT can be severely damaged when this habitat is lost.

There are no known non-native salmonids within the Thomas Fork Drainage on the Caribou National Forest, but it is likely they exist downstream. There is potential for nonnative salmonid migration upstream into the streams affected by this CA. There is also potential for illegal transplant of these species into these streams. Nonnative fish may compete with Bonneville cutthroat trout for habitat and non-native cutthroat trout or rainbow trout may hybridize with Bonneville cutthroat trout.

There is potential for projects to consider reconnection of tributaries with the Thomas Fork to address fragmentation. These projects must consider potential for allowing access by nonnative fish to the CA streams.

VII. CONSERVATION ACTIONS THAT WILL BE CARRIED OUT

The USDA Forest Service Shall:

Ensure that the allotment management plan (AMP) for the Montpelier/Elk Valley Allotment is fully implemented. This includes but is not limited to:

The exclosure fences in Preuss, Dry, and Giraffe Creeks will be maintained by the USFS.

Maintain a maximum of 45-55 percent utilization on all forage species in the upland areas. Riparian areas used prior to July 15th shall be required to have a minimum stubble height of 4 inches

remaining at the end of the grazing period. Riparian areas grazed after July 15th shall have a minimum of 6" stubble height remaining at the end of the grazing period. For the purpose of monitoring cattle use in riparian areas for this CA, stubble height is estimated for key forage species on land adjacent to the stream which is prone to floods.

Maintain a minimum ground cover of 60-70 percent in upland areas.

Ensure that 75% of the Desired Future Condition (DFC) parameters as defined in the allotment management plan are met before re-evaluating whether grazing should resume within the exclosures.

Continue to meet INFISH direction, standards, and guidelines.

Forest will continue to seek opportunities, partnerships, and funding for habitat restoration projects such as crossing improvements at Preuss Creek, riparian area improvements, and replacing or altering exclosure fences that provide more effective and efficient riparian habitat protection.

Produce a watershed analysis of the Thomas Fork within the next five years. This analysis will produce a list of science-based projects for long and short term management of the watersheds.

Maintain central repository of monitoring and project files for activities in CA area at Montpelier Ranger District.

By end of each calendar year, during the life of the agreement, the USFS will convene a meeting of CA participants for an annual review of the agreement.

By end of February, the USFS will coordinate the production of an annual report describing the accomplishments of the CA. The USFWS and IDFG will provide information regarding the status of the cutthroat trout populations to the USFS prior to the end of each January. All CA participants will provide a summary of field observations within the CA area prior to the end of January.

The Caribou Cattlemens' Association (CCA) shall:

Ensure the allotment management plan is implemented as approved. Ensure that all improvements are completed on schedule and maintained to standard.

Continue moving livestock away from riparian areas and encourage the use of suitable upland areas through offsite watering, strategic

salting, and intensive riding.

Supply USFS historical data from files for the CA central repository.

Provide USFS a summary of field observations within the CA area prior to the end of January.

Participate in coordinated monitoring efforts as funding and time allows.

The Idaho Soil Conservation Commission (ISCC) shall:

Provide information on the availability of grant funds through programs administered by ISCC.

In cooperation with Bear Lake Soil and Water Conservation District and Idaho State Conservation District, ISCC will explore opportunities for restoring connectivity across private land where willing landowners control these portions of the ecosystem.

The Idaho Department of Fish and Game shall:

Continue to regulate fishing in the Thomas Fork drainage to minimize mortality to Bonneville cutthroat trout caused by anglers.

Explore opportunities for restoring connectivity across private land where willing landowners control these portions of the ecosystem.

Supply USFS historical data from files for CA central repository.

Provide USFS a summary of field observations within the CA area prior to the end of January.

IDFG will provide information regarding the status of the cutthroat trout populations to the USFS prior to the end of each January.

The US Fish and Wildlife Service shall:

Explore opportunities for restoring connectivity across private land where willing landowners control these portions of the ecosystem.

Serve as a spokesperson of CA accomplishments and plans to USFWS listing review team.

Supply USFS historical data from files for CA central repository.

Provide USFS a summary of field observations within the CA area prior to the end of January.

USFWS will provide information regarding the status of the cutthroat trout populations to the USFS prior to the end of each January.

The Idaho Division of Environmental Quality (DEQ) shall:

Supply USFS historical data from files for CA central repository.

Provide USFS a summary of field observations within the CA area prior to the end of January.

Serve as a liaison between CA participants and Bear River Basin Advisory Group.

VIII. MONITORING

The USFS shall insure all monitoring is conducted according to allotment management plan and the aquatic monitoring plan. The

In FY 2000, the USFS will update the aquatic monitoring plan in coordination with IDFG and DEQ.

The IDFG, USFS, and DEQ will coordinate fish monitoring activities. IDFG, and/or the agencies listed above, will continue to monitor population densities in index reaches of Preuss, Dry, and Giraffe Creeks a minimum of every 2 years during this agreement to determine trends. It is IDFG's responsibility to ensure monitoring efforts are not duplicated in these streams and monitoring occurs a minimum of every 2 years.

The IDFG, USFS, and IDEQ will conduct population and distribution studies in other streams within the Thomas Fork Drainage in Idaho. This will be coordinated between agencies to avoid duplication of effort.

The Caribou Cattlemens Association will maintain the association's photo plots and video monitoring established in the Thomas Fork Drainage. They will re-take photos every 3-5 years.

Note: The Allotment Management Plan and the Aquatic Monitoring Plan referred to are available for reference or review at the Montpelier District Office.

Montpelier Elk Valley Allotment Management Plan (AMP), prepared by Julie King and Brad Transtrum, reviewed by Golden Keetch, and approved by Mark L Johnson, 5/18/94.

Montpelier Elk Valley Grazing Allotment Aquatic Monitoring Plan. A National Aquatic Monitoring Center Regional Pilot Project. DRAFT 6/2/94 prepared by G.Chen, R.Brassfield, L Leffert, M. Johnson, and D. Scully.

IX ACCOMPLISHMENTS

Ensured conversion of the livestock management (grazing systems) from 4 divisions with 15 individual pastures or units, to 6 divisions and 85 separate pastures or units. The latter includes 5 riparian exclosures.

Ensured all fences and water developments planned in the AMP were constructed and maintained.

Ensured the exclosure fences for Pruess, Giraffe and Dry Creeks were constructed.

Ensured the rest-rotation grazing systems described in the AMP were implemented.

Expanded the Giraffe Creek exclosure.

Closed cattle crossing of Pruess Creek below the lower exclosure and provided water troughs on each side of exclosure.

Installed to USFS specifications all structural range improvements designated in the Resource Conservation and Rangeland Development Program (RCRDP) Grant agreement.

Idaho Soil Conservation Commission provided $10,000 in grant through the Resource Conservation and Rangeland Development Program (RCRDP) to the Caribou Cattlemens Association for the installation of structural range improvements as described in the RCRDP grant agreement.

X. DURATION OF AGREEMENT

The duration of this CA is for five years following the date of the last signature. Annually, the parties involved will review the agreement and its effectiveness to determine whether it should be revised. By the 5th year, the agreement must be reviewed and either modified, renewed, or terminated. If some portion of this agreement cannot be carried out or if cancellation is desired, the party requesting such action will notify the other parties within 1 month of the changed

circumstances.

XI. SIGNATURES

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XII. LITERATURE CITED

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